BALTEX II Data Management and Baltic Grid: Status Report

Michael Lautenschlager
World Data Center Climate
Model and Data / Max-Planck-Institute for Meteorology

BALTEX Scientific Steering Group Meeting

Helsinki, Finnland, 12.-14.01.09

BALTEX l DCs are still reachable.

The Baltic Sea Experiment - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://www.baltex-research.eu/data

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The Baltic Sea Experiment

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BACC
BALTIC GRID

5th Study Conference on BALTEX

BALTEX Data Centres

Data relevant to BALTEX cover a wide range of disciplines, data types, periods, geographical extent, frequency and horizontal resolution. Also, the BALTEX region includes more than 10 countries with different structures regarding the collection, distribution and archiving of relevant information. Therefore, it is necessary to have a well-defined data management structure in order to facilitate data preparation and exchange within BALTEX.

As the practical requirements for meteorological, hydrological and oceanographic data are rather different, it has been decided to establish BALTEX Data Centers at different national agencies. From 1994 until 2002, the DWD in Offenbach, Germany, hosted the BALTEX Meteorological Data Center which is now administered by the World Data Center for Climate (WDCC) at the Max-Planck-Institute for Meteorology in Hamburg. The outstanding task, among others, of this Data Center is to make precipitation data from all existing stations in the BALTEX region available. SMHI in Norrkoeping, Sweden, hosts the BALTEX Hydrological Data Center with the special duty, among others, to make the runoff data from all available runoff stations in the BALTEX region accessible. SMHI also operates the BALTEX Radar Data Center which is now regularly producing and archiving weather radar data and products from the BALTRAD radar network in northern Europe. In 2002/2003, SMHI has also confirmed to establish and maintain the Oceanographic Data Center for BALTEX.

The BALTEX Secretariat (IBS) will closely co-operate with the BALTEX Data Centers in order to co-ordinate aspects of data storage, the data exchange policy within the BALTEX research community and the contents of data bases.

It is expected that the exchange of data will frequently take place using the internet system, directly between the originator and the user of the data. The Data Centers

Related links

General Data Exchange Policy
More...

BALTEX Phase II Data Policy Document
More...

BALTEX Data Centres
More...

Information for Data users
More...

BALTEX Working Group on Data Management
More...

Fertig

BALTEX Meteorological Data Center (BMDC)

Michael Lautenschlager, World Data Center for Climate
(data(at)dkrz.de)
Transfer from DWD to WDCC: November 2003
Complete BMDC had been archived on CD: 263 MB with data until
March 2003
User requests: 43 in 2004 / 2 in 2005 / 0 in 2006 / 7 in 2007 / 0 in 2008
UNIDART data access had been offered from DWD as substitution

BALTEX Hydrological Data Center (BHDC)

Marcus Flarup, SMHI (baltexhdc(at)smhi.se)

BALTEX Radar Data Center (BRDC)

Daniel B. Michelson, SMHI (daniel.michelson(at)smhi.se)

Oceanographic Data Center for BALTEX (ODCB) at SMHI

Philip Axe, SMHI (philip.axe(at)smhi.se)

BMDC part of WDCC

Datei Bearbeiten Ansicht Gehe Lesezeichen Extras Hilfe

http://cera-www.dkrz.de/WDCC/ui/Entry.jsp?acronym=BALTEX_MDC_31-03-2003

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CERA entry information for BALTEX_MDC_31-03-2003

General Information

Acronym	BALTEX_MDC_31-03-2003
Name	Baltex Meteorological Data Centre (BMDC) from 31.03.2003
Type	experiment
Progress	not given
Project	BALTEX: The Baltic Sea Experiment (BALTEX)
	The Baltic Sea drainage baisin extends over 14 countries. International cooperation is a central prerequisit for the success of BALTEX. Scientists at institutes, universities and operational services of the following countries have contributed to BALTEX: Austria, Belarus, Canada, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, The Netherlands, Poland, Russia, Sweden, United Kingdom, United States of America. For more information please consult BALTEX homepage under http://www.gkss.de/baltex
Summary	These datasets contain data provided by the BALTEX countries until 31.03.2003. Each country provides its own set of meteorological parameters. The datasets are ZIP format, one for each country. The dataset BMDC_README contains the complete information (README and BMDC_structure) as provided on the CD. The data has been delivered on CD by Deutscher Wetterdienst, Abteilung Klima und Umwelt. To use the data please register as BALTEX user (as described on the Baltex homepage http://www.gkss.de/baltex/data.html).
Keyword(s)	observational data
Creation date	23/01/2004
Review date	23/01/2004
Future review date	23/01/2014

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Quality

Accuracy report	not filled
Completeness report	complete content of the CD provided by Deutscher Wetterdienst, Abteilung Klima und Umwelt.

http://www.gkss.de/baltex

Individual data sets of BALTEX-I MDC

CERA - Datasets for experiment BALTEX_MDC_31-03-2003 - Mozilla Firefox

Datei   Bearbeiten   Ansicht   Gehe   Lesezeichen   Extras   Hilfe

http://cera-www.dkrz.de/WDCC/ui/DatasetList.jsp?acronym=BALTEX_MDC_31-03-2003

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Sort by Name   Go

Name	Progress
blr.tar.gz	in work
BMDC_README	in work
country_info.tar	in work
cze.tar.gz	in work
deu.tar.gz	in work
dnk.tar.gz	in work
est.tar.gz	in work
fin.tar.gz 6 MB (zipped binary file)	in work
IFM_ferries.tar.gz	in work
intas.tar.gz	in work
kal.tar.gz	in work
ltu.tar.gz	in work
lva.tar.gz	in work
nor.tar.gz	in work
pol.tar.gz	in work
rus.tar.gz	in work
SST_finland.tar.gz	in work
svk_tar_gz	in work
swe_tar_gz 56 MB (zipped binary file)	in work

Fertig

Decision:

The BALTEX SSG meeting December 2006 in St. Petersburg decided

(1) to stop the centralised BALTEX-I data centres and

(2) to aim for a new data management structure which is based on networking of already existing data archives related to BALTEX research
- Federation of operational, long-term data archives.

Implementation steps of BALTEX II data system:

A) Web list of data archives which volunteers to participate
- providing information on available data sets and their access procedures
- URL: http://www.baltex-research.eu/data/data_links.html

B) BALTEX data catalogue: web-based and searchable catalogue of available data sets including detailed access information

C) BALTEX data portal: Web-portal including the BALTEX data catalogue and transparent data access ("one-stop-shop")

BALTEX II data link list

Internal

How to participate

BACC

on Data Management
More...

Meteorological and climatological data

World Data Center for Climate (WDCC)
The WDCC provides web-browser access mainly to climate model data. The "Browse Experiment" option provides tree-like access to global and regional model data. Data of potential BALTEX interest can be obtained directly from the following WDCC server:

- BALTEX (Baltex Meteorological Data Centre (BMDC); Status 31.03.2003)
- CLM_regional_climate_model_runs (The climate version of the local model (CLM) of the DWD was used to simulate the regional climate of the 20th century (1960-2000) and 21st century (2001-2100) in Europe.)
- Webportal of IPCC data
- IPCC-DDC (The IPCC Data Distribution Centre privides access to selected monthly means from climate model scenario calculations for the last three assessment reports): AR2 / AR3 / AR4
- IPCC_HH (IPCC-Hamburg Climate Model Simulations provides access to results from a set of four scenarios families (A1, A2, B1, B2) which have been calculated with the EHAM5/MPI-OM global earth system model.)
- REMO-UBA (REMO-Simulations on 10km horizontal resolution: Three high resolution regional IPCC scenarios (A2, A1B and B1) for Germany, Austria and Switzerland have been performed using the regional climate model REMO driven by results from the coupled ocean atmosphere model ECHAM5-MPIOM.)
- Webportal of CEOP GCM Data Archive
- CEOP-I (see also below). CEOP-I means Coordinated Enhanced Observing Period. CEOP-I is an effort to address some of the critical aspects of the climate system involving land areas in particular over a 2 year period beginning in mid-2001 and ending December 2004. It will focus on two overall issues: water and energy fluxes and reservoirs over land areas, monsoonal circulations)
- Webportal of ENSEMBELS GCM Data Archive
- ENSEMBLES (see also below). The ENSEMBLES GCM data archive contains presently the first data stream (2006) of data of scenarios which mostly were calculated for the IPCC Fourth Assessment Report (AR4). Stored are global GCM scenario data, monthly mean and daily mean values in netCDF-format for these emission scenarios: SRESA2, SRESA1B, SRESB1, 1PCTTO2x, 1PCTTO4X, 20C3M.

Data access is free for BALTEX scientists. A user account can be obtained by sending an e-mail request to data(at)dkrz.de and specifying name, institute and at least E-mail adress of scientist. Additionally, BALTEX and the scientific project

UNIDART Access
Via Jörgen Nilsson
- Future?

UNIDART
The Uniform Data Request Interface Programme, UNIDART, is financed by
EUMETNET. The main goal of the project is the development of uniform web
services to access meteorological data stored in distributed and heterogeneous
data sources. If the web services are deployed at the site of a meteorological
data provider, then a broker system can mediate the handling of data requests
between users and this data provider. Such a broker system is WebWerdis, the
Weather Request and Distribution System of DWD. BALTEX scientists and
researchers can apply for a WebWerdis account. For registration to this
"one-stop-shop", send an email to the Baltex secretariat (baltex(at)gkss.de) if you
are already a registered user of BALTEX databases. For registration as new
BALTEX data user, please follow the procedure given here.

Coordinated Enhanced Observation Period (CEOP)
CEOP (Coordinated Enhanced Observing Period) is an element of
WCRP-GEWEX and seeks to establish a global observing system for the water
cycle.

- Access to CEOP data (in-situ, satellite and model output)
- In-situ data from 16 reference sites worldwide for EOP1 (pilot phase: July
  to September 2001)
- In-situ data from more than 30 reference sites worldwide for EOP3/4
  (October 2002 to December 2004)

ENSEMBLES RT2B: Production of regional climate scenarios for Impact
Assessments
Web site of the Research Theme 2B of the EU FP6 Project ENSEMBLES to
develop an ensemble prediction system for climate change.
Data from regional climate modelling can be obtained from DMI, Copenhagen
contacting RT2B coordinators www.cru.uea.ac.uk/projects/ensemblesrt2b/
Important note: Both data archives, global and regional, are not in final state.
Data collection and quality assurance has not finished.

The Climate Explorer
Web data interface for worldwide climatological data; by the KNMI (Royal
Netherlands Meteorological Institute). Data from the BALTEX area available.

Oceanographic data

The Finnish Institute for Marine Research (FIMR)
Sea ice maps, data on hydrography, ocean color, algal distributions, actual and
partly archieved BMP monitoring data

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The Federal Maritime and Hydrographic Agency
Marine data (satellite SST, color, hydrography, MARNET Monitoring data) and a variety of charts and maps

FIMR Polar View Products
Polar view, ice forecasts, ice thickness charts

AMSR-E Sea Ice Concentration for the Baltic Sea
AMSR satellite data on sea ice concentration, daily updated in winter

Modis Rapid Response System
Modis Satellite data

Hydrological data

The Global Runoff Data Centre (GRDC)
World-wide depository of discharge data and associated metadata (small handling fee may by charged)

- **Baltic Sea Region Climate Data Network**:
  - Project idea from discussions within BWGD (Andreas, Jörgen, Michael) over 2007/2008
  - Idea: Realisation of BALTEX-II data system implementation plan steps B) and C) and rescue parts of the failed BONUS proposal COFFEX
  - Proposal is planned to be submitted in the 2nd call of the Baltic Sea Region Programme 2007-2013
  Objective: to make the Baltic Sea region an attractive place to invest, work and live in

- The BSR-CLIDANET data network will focus in its initial phase on data from atmosphere, ocean and the land-ocean interface. Central data product will be a state of the art reconstruction of the Baltic Sea Region climate for the past 40 years using existing forcing data and operational numerical models.
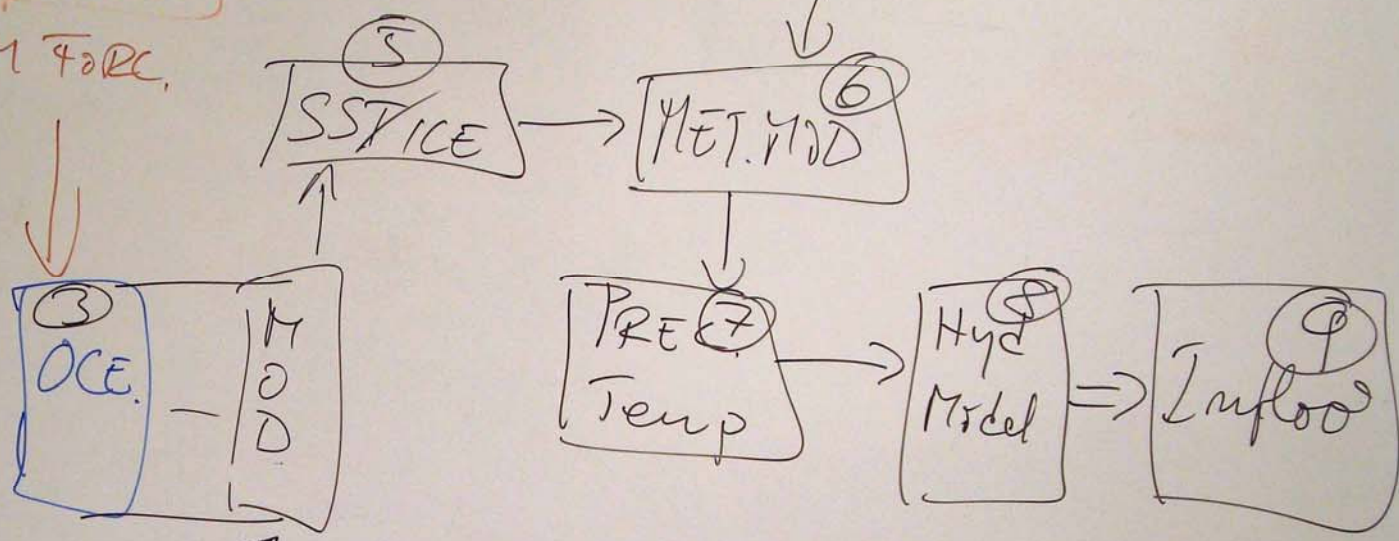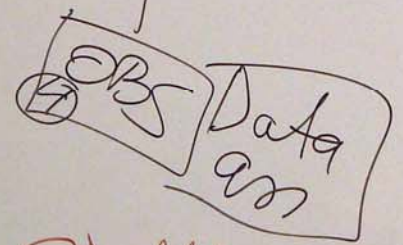
- **A0: Preparation Phase**

- **A1: Management**

- **A2: Dissemination and Communication**
  - User Requirements and feedback capture
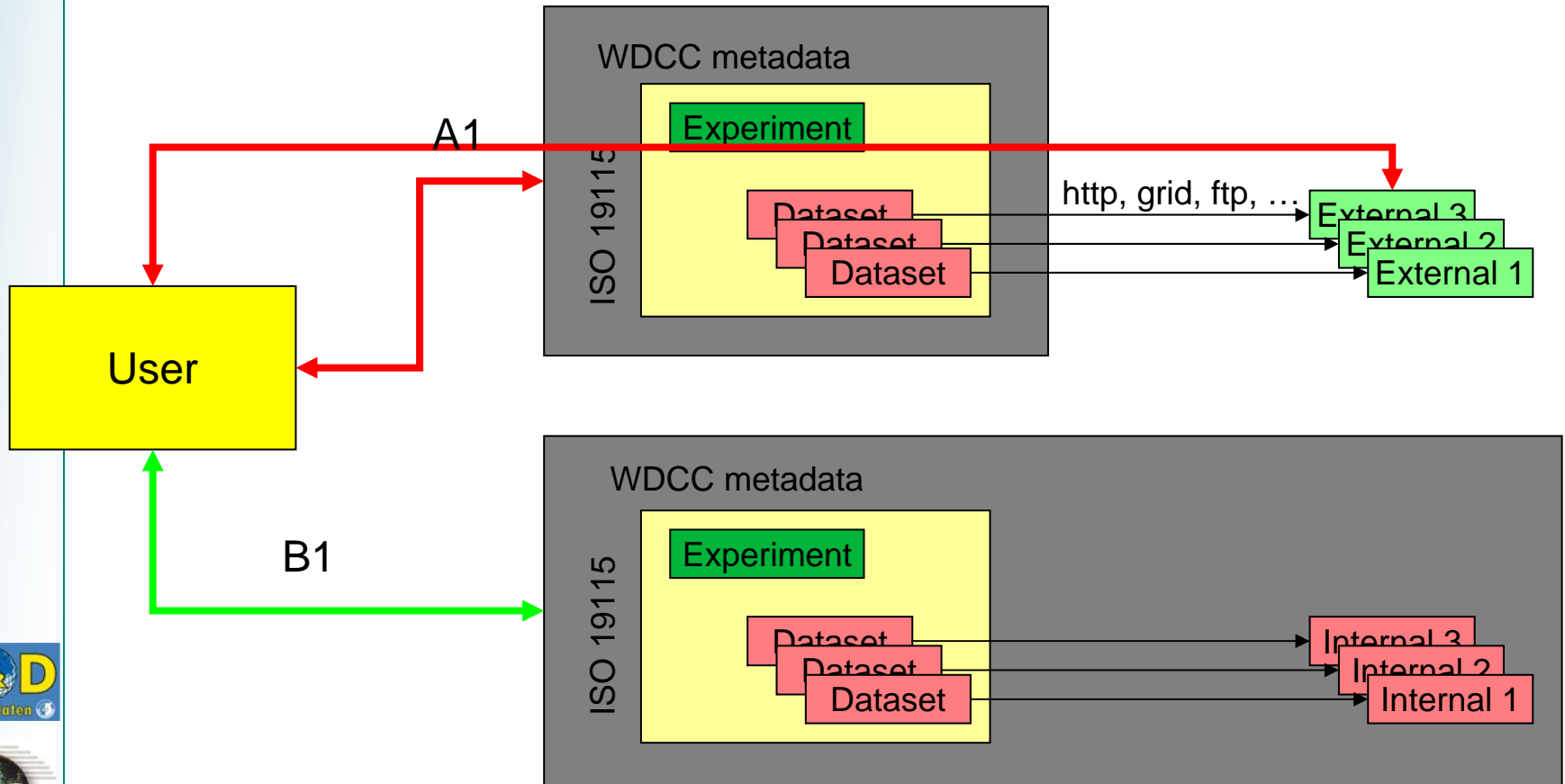 - Web portal for data and information products

- **A3: Implementation of data network**
  - A3.1 Data network implementation
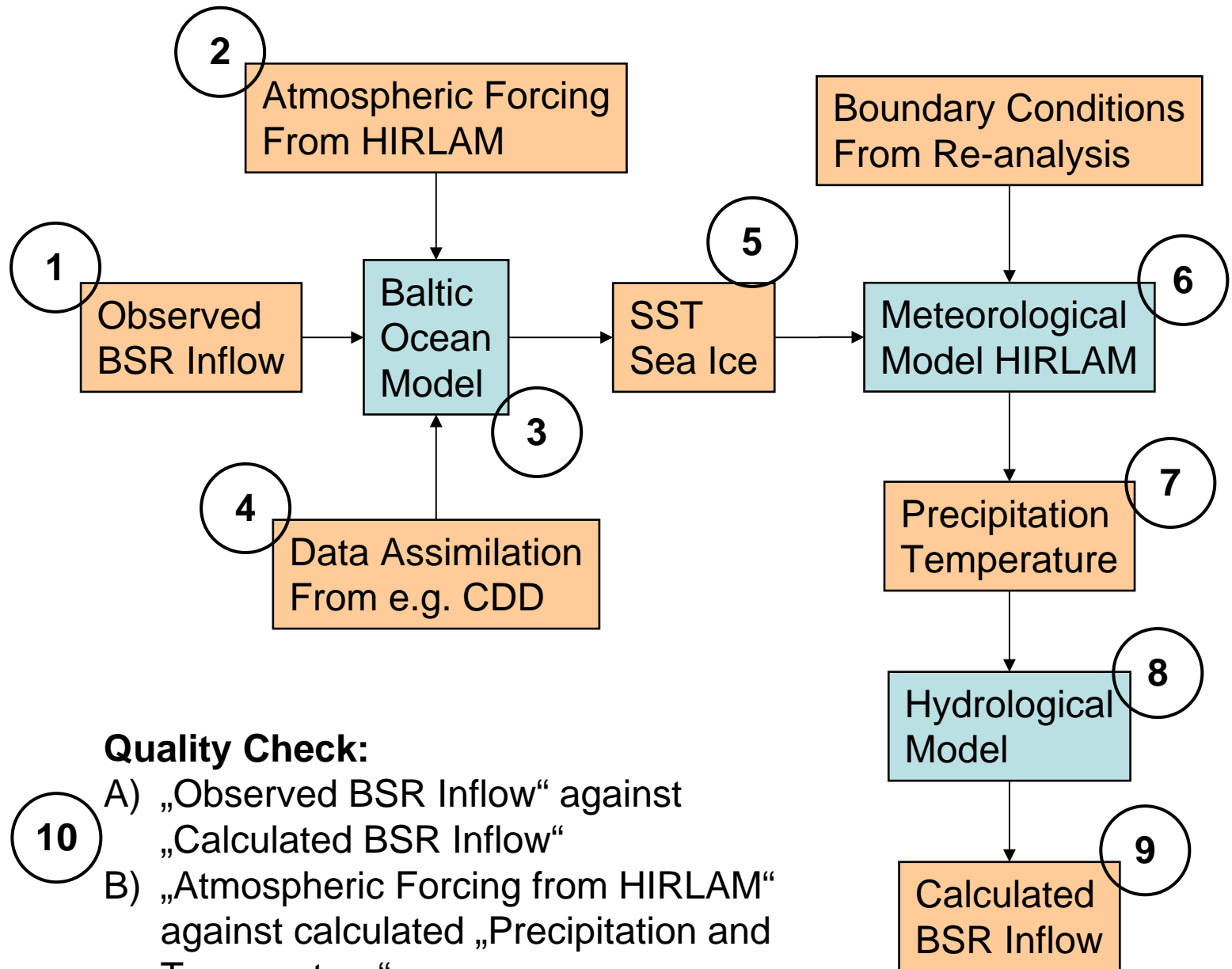 - A3.2 Date node integration
  - A3.3 Operation und user support

- A4: Generation of 4D climate reconstruction
  - A4.1 Generation and downscaling of forcing data
  - A4.2 Reconstruction of the ocean state
  - A4.3 Reconstruction of the atmosphere state
  - A4.4 Diagnostics and quality check

Quality Check:
A) „Observed BSR Inflow" against „Calculated BSR Inflow"
B) „Atmospheric Forcing from HIRLAM" against calculated „Precipitation and Temperature"

- A5: Pilot Applications
  - A5.1 Analysis of user requirements
  - A5.2 Provision of data products and human-machine interfaces
    - ◆ Political and environmental level (HELCOM)
    - ◆ Coastal management and development authorities (BALTIC MASTER II)
    - ◆ **Fisheries:** Ocean circulation decisively determines the drift of fish eggs and larvae and therefore the nursery areas of important commercial fish species.
    - ◆ **Offshore wind energy sector:** Regional wind field variability of the BSR can be assessed. Of special interest is the quantification of risk due to ice damage.
    - ◆ **Coastal water quality / ECOSUPPORT :** Climate input related to wind, heat and frewhater inputs is one of the most important features required in the ECOSUPPORT project.
    - ◆ **Visualization to stake-holders and politicians:** A decision theatre (300 participants), situated in the Norrköping Visualization Centre and in portable dome (20 participants), is presently developed. The visualization will be applied as a basis for dialogues between experts, decision-makers and the public.

- **So far envisaged partners**
  - IFM-GEOMAR, Leibniz Institute of Marine Sciences, Kiel, Germany
  - SMHI, Swedish Meteorological and Hydrographical Institute, Sweden
  - WDCC, World Data Center Climate at Max-Planck-Institute for Meteorology, Germany
  - DKRZ, German Climate Computing Centre, Germany
  - FMI, Finnish Meteorological Institute, Helsinki, Finland
  - FIMR/Syke Finnish Institute of Marine Research, Helsinki Finland
  - Russia State Hydrological Institute, St. Petersburg, Russia
  - Norrköping Visualization Centre

- **Next steps**
  - Consultation with HELCOM (Wed. 14th afternoon)
  - Baltic Sea Region Programme Lead Applicant Seminar in Rostock, 4-5 Febr 2009
  - Proposal submission by 31 March 2009